

REMARKS

Claims 1-13 have been examined. Claims 1-13 are all the claims pending in the application.

Claim rejections -- 35 U.S.C. § 103

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ando, in view of Wiatrowski, both previously of record. Applicant respectfully traverses this rejection.

The Examiner cites Ando as disclosing the establishing means, but acknowledges that Ando does not disclose the searching means as set forth in claim 1 for example. The Examiner thus cites Wiatrowski as allegedly curing this deficiency. The Examiner suggests that it would have been obvious to one of ordinary skill in the art to modify the teachings of Ando by providing the cyclical switching of Wiatrowski. As motivation to combine the teachings, the Examiner suggests that one of ordinary skill in the art would have been motivated to make the modification to Ando because of the enhanced efficiency in causing the receiver's receiver to spend a greater amount of time searching for high priority frequencies. Applicant respectfully disagrees with the Examiner's position.

Ando is directed at a system for data communication using synchronizing signals of different data lengths. Such synchronizing signals are needed in communications systems such as those used in toll booths, where a vehicle drives by the toll booth and automatically has the owner's account decreased by the amount of the toll. In such a system, a long data length for the

synchronization signal has a benefit in providing increase reliability of the data transmitted because the risk of being unable to synchronize is decreased. However, the longer data length also causes problems because the communications time in sending the longer data is also increased. This is a problem for a fast-moving automobile passing by the toll plaza. Thus, it is desirable to have shorter, quicker communications. (Abstract; col. 1, lines 25-57). Thus, Ando proposes using a plurality of synchronizing signals of differing lengths. (Col. 1, lines 60-63).

The Examiner will appreciate that in the toll booth context of Ando, only one set frequency is necessary, since transceivers on both sides are known. Thus, Ando describes the tollgate transceiver and the on board equipment (OBE) transceiver as having only one transmit and one receive frequency. (See Col. 5, lines 1-50). The frequencies f1 and f2 are merely the local oscillator frequencies of the tollgate and the OBE, respectively. They are not switched, and the fact that they are different only serves to illustrate that the OBE and the tollgate may use different oscillator crystals, for example, to synthesize the carrier frequency being used.

The Examiner will also appreciate that the Ando system uses time-division multiple access to allow simultaneous communication between the system and a plurality of vehicles. (Col. 7, lines 34-36). This provides further evidence that only one frequency need be used.

Thus, in summary, the Ando system seeks to improve the speed of communications in order to accommodate faster speeds of vehicles moving through the tollgate, and to employ a simple battery powered transceiver in the OBE in order to reduce size and visibility of the OBE device.

By contrast, Wiatrowski is directed to a scanning method in which the system switches between multiple channels having multiple assigned priorities. (col. 1, lines 5-17; Fig. 2). Wiatrowski relates to priority scanning and its object is to realize a system in which a terminal capable of receiving a plurality of CII can receive a preferred priority channel. After the terminal has received a non-priority channel, the priority channel is scanned. Thus, Wiatrowski is directed at the operation of the terminal after the terminal has received the non-priority channel, and is therefore based on the assumption of reception of a plurality of channels in a series.

Applicant therefore submits that one having ordinary skill in the art would not have been motivated to combine the Ando and Wiatrowski teachings for the following reasons. First, modifying the Ando system to include the frequency switching capabilities of Wiatrowski introduces needless complexity into the OBE-tollgate system. Second, because of this complexity, the complexity, size, and cost of the OBE device of Ando is increased. Third, the system of Ando uses a fixed frequency to both transmit and receive data, and Ando provides no suggestion that multiple frequencies would even be desirable or useful. Specifically, Ando uses time division multiple access communication method to pack information into one channel, as discussed at col. 7, lines 34-36 of Ando. Fourth, switching frequencies, as described in Wiatrowski, would take additional time, both to switch the frequency (i.e., for the local oscillators to re-lock) and to negotiate on which frequency to communicate. This additional time specifically frustrates the solution that Ando proposes, and thus teaches away from the combination.

Since the teachings of neither Ando nor Wiatrowski, taken alone, meet all the features of claim 1 or claim 13 -- as admitted by the Examiner -- claims 1 and 13 are each patentable. The remaining claims are patentable based on their respective dependencies.

Even if the Ando and Wiatrowski references may be combined, the combination still does not teach all of the features of the claims.

For example, claim 1 sets forth the feature wherein said searching means performs the search by cyclically switching radio frequencies from one to another while keeping a first ratio that radio frequencies for a first type of communication are searched for larger than a second ratio that radio frequencies for a second type of communication are searched for, wherein the ratio for a first type communication is the scanning time spent searching for a first type of communication, divided by a total scan period, and the ratio for the second type of communication is the scanning time spent searching for a second type of communication divided by the total scan period. The Examiner maintains that this feature is met by Fig. 2 of Wiatrowski. However, Applicant respectfully disagrees with the Examiner's position.

At Fig. 2A, Wiatrowski shows a timing diagram showing priority scanning. At discussed at col. 4, lines 10-25, in the "no activity" time interval, communication unit 105 "switches between" channels 1, 2, 3, and 4, "in turn" until activity is detected. Wiatrowski then goes on to give representative "scan sequences" which "may be configured to suit the particular needs of a user." However, nothing in this description suggests any ratio of scanning time, or more specifically that a ratio for a first type of communication is larger than that of a second type of

communication. When a reference does not disclose that drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. See MPEP § 2125. In this case, Applicant submits that Fig. 2A of Wiatrowski is provided merely to show the *sequences* of the channels and their timing, i.e. that channel 2 is scanned after channel 1, and not for the periodicity (or lack thereof) of the switching. There is no specific disclosure of a scanning method. Ando contains no teachings relevant to this issue. Therefore, claim 1 is patentable over the Wiatrowski and Ando combination for at least this reason.

Claim 13 recites features similar to claim 1 and is therefore patentable over the Wiatrowski and Ando combination for the same reasons. The remaining claims are patentable based on their dependencies.

With further regard to claim 2, claim 2 sets forth the feature that the first type of communication requires high-speed link establishment, and the second-type of communication does not require high-speed link establishment. The Examiner cites Wiatrowski at col. 9, lines 31-44 as teaching this feature. However, Applicant respectfully disagrees.

At the cited lines, Wiatrowski teaches different squelch rules, for example, a digital private line having a low speed binary signal, and data-or-squelch having a high speed data packet. However, as noted at col. 8, lines 58-67, different channels may be assigned the same frequency but different squelch rules. Thus, to the extent that Wiatrowski teaches high and low speed signals, Wiatrowski teaches their use in the same channel. Thus, Wiatrowski does not relate the speed to the type of communication, as set forth in the claim. Ando contains no

teachings on this issue, as acknowledged by the Examiner. Thus, claim 2 is patentable over the Ando and Wiatrowski combination for this reason. Claims 3, 9, and 10 recite a similar feature, and therefore are patentable for the same reason. Claim 7 is patentable base on its dependency.

With further regard to claim 4, claim 4 recites the feature of switching demodulation types. The Examiner argues that this feature is taught by Wiatrowski at col. 2, lines 28-33, col. 6, lines 62-67, col. 7, lines 34-41, and col. 9, lines 1-26. However, Applicant respectfully disagrees. To the extent that these portions of Wiatrowski discuss modulation, they discuss modulation as a rule or test for determining whether priority scanning may be inhibited. Thus, Wiatrowski does not teach a searching means which switches demodulation method when switching radio frequencies. Ando does not cure this deficiency. Therefore, claim 4 is patentable over the Ando and Wiatrowski combination. Moreover, claim 11 recites a similar feature, and is therefore patentable for the same reasons.

Conclusion


In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.116
U.S. Appln No. 09/921,714

Q65726

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23373

CUSTOMER NUMBER

Date: September 8, 2006